FIGURE 5-48. Initial Twenty Year Project List - Continued

d 9 6 6 Comment	Leeward aquifer would have been developed, with only 77,912 additional source available from No this well if a resource reserve is maintained.	These projects are not capitalized. However, they would add to expenses are reduing to be recovered, so are added here. Assumes replacement of all non-conserving toilets and other fixtures. These projects buts the hypalon cover and replacement of Palawal Grid line bwlow combine to an estimated 485,000 GPD in	* Not selected per discussions wutility. Cost would be \$1.415 million.			Estimated 14,000 GPD reduction in losses.	Eliminating losses increases available capacity	without additional strain to the aquifer. Levelized costs estimated based upon higher installation	costs than are now shown, (\$3.84 million, assuming ductile iron pipe. This was the most	cost-effective resource option even with the ductile iron pipe assumption.) Costs shown here	IIVOIVE IIIGI-pressure PVC.					7 currently operating source pumps, plus 2 or 3 more likely to operate in near future, plus new source pumps for well s15 and 2b - a total of 12 source pumps w assumed lifetime of 15 years per pump. 200K for replacement 20 years	Regular maintenance, assessment and replacement of parts such motors, electrical or other needs can help extend the life of pumps. Some annual buddet is necessary to insure this. \$50 K ere wear for 20 years
Assumed Pumping In '96 Model	2															rating sou w source p ned lifetin	enance, as ner needs ssary to in
Effective Source Addition	300,000	100,000 15,000 43,000 111,000				14,000	202,000									7 currently ope future, plus nev pumps w assur 20 years	egular mainte ectrical or oth udget is nece
Avg Day Capacity	384,000															7 T	ድ ወ ፰
16 Hrs	576,000																
24 Hrs	864,000																
Antic Capacity GPM	3 009																
Budget	1,760,800	1,480,419 225,000 150,000 675,000 3,000,000		5,000,000	75,000	495,000	3,740,920	972,041	3,958,217	878,062	697,842	1,202,755	153,237	342,947	000'6	2,400,000	1,000,000
Project Description	install roughly 15,0000' of pipeline to connect well to system.	r Residences, Hotels and Others	Replace 0.5 MG Hi'i Tank and re-line 1 MG Hi'i reservoir	Replace 0.5 MG Hi'i tank and 1 MG Hi'i reservoir with 2 MG	Design & Construct tank to serve needs of Kaumalapau. Construct tank, appurtenances,	Install hypalon balls to reduce evaporative losses at 15 MG	bid	RV on 10" Asbestos Line									
Phase	Transmission	nd Demand Side Management Projects Direct Install / Rebate of Distals and Other Efficient Fixtures for Residences, Hotels and Others Direct Install / Rebate of Distals and Usingsape Customers Leak Detection & Water Audit Program - Equipment Landscape Conservation Program Portion of Watershed Fence Project - For Third Increment Only	Line Hi'i Reservoir	ir with 2 MG Tank		kish Res.	acement Replace Broken & Leaking Pipe in Central Palawai Irrigation Grid	Pipe Segments in Lana'i City & PRV on 10" Asbestos Line		u Line to Miki Basin	n Systems	ana`i City	Grid	nd of Palawai Irrigation Grid	trial Veeded		ontrol & Electrical Centers
Year Project	Windward Wells at Kauiki - Incremental	Supply and Demand Side Management Projects Direct Install (Pseube of Toliests and Other Efficient Fip Incentive Program for Hole and Landsape Customers Leak Detection & Water Audit Program Landscape Conservation Program Portion of Watershed Fence Project - For Third Increm	Storage Projects Replace Hi'i 0.5 MG Tank & Line Hi'i Reservoir	OR Replace Hi'i Tank & Reservoir with 2 MG Tank	Replace Kaumalapau Tank	2012 Hypalon Balls at 15 MG Brackish Res.	Line Replacement Replace Broken & Leaking Pi	Replace Asbestos-Concrete Pipe	Upgrade Kaumalapau Line	Connect Potable Kaumalapau Line to Miki Basin	Connect Well 7 to Distribution Sys	Replace Steel Segments in Lana'i	Connect Well 7 to West End Grid	Replace Old Pipe In West End of	PRV Valve Above Miki Industrial Replace Kaumlapan PRV Replace PRV below HiT Replace PRV below HiT Replace Ninth St. PRV Other PRV Replacement as Needed	Pump Replacement Rolling Pump Replacement	Rolling Upgrades to Motor Control

System Maintenance and Replacement Needs

FIGURE 5-48. Initial Twenty Year Project List - Continued

itiai Twenty	Year Pro	ject List	- Cont	inuea				
Assumed Pumping In '96 Model Comment	Contingency for telemetry or other system monitoring needs, such as large flow meters, etc. 25K per year over 20 years.	From New Meter Fees Expansion 64,754,410 With Build-Out Scenario		660,932 from B&C report and Balance Sheet submitted for PUC Docket 2008-032, plus 253,164, from In Por form a statement submitted for 767,761 from B&C report and Balance Sheet	submitted for PUC Docket 2008-032, plus 76,159, from Pro Forma statement submitted for	Source: Brown & Jeanem Report Lana I water System Acquisition Appraisa. May 2009 Draft Source: Brown & Caldwell Report Lana'! Water System Acquisition Appraisa, May 2009 Draft	OR TOTAL 5,335,010 With Base Case Development Only	
Effective Source Addition	ntingency for v meters, etc	New						
Avg Day Capacity	ÖÖ	From Rates & Monthly Charges Improvement 36,312,479	1,815,624	914,116	843,920	80760	2,035,834	3,851,458
16 Hrs		Fro Month In					1	
24 Hrs								
Antic Capacity GPM								
Budget	900,000	101,066,889	5,053,344					
Project Description		ESTIMATED 20 YEAR SYSTEM CAPITAL NEEDS	Assumes that a 20 year roll-in, with a return on equity of 10% would work out to an average carrying cost of about 5%	Annual Revenues	Annual Loss Currently Covered by C&CR	Increase in Cost of Labor New Facilities and Rolling Stock	Subtotal Additional Revenue	Annual Revenue Requirements
Phase								
Year Project	SCADA, Telemery & Monitoring Needs Replacements & Upgrades							

Revenue Requirements To Cover Capital Expenditures

The total cost of projects identified and included in the Capital Plan in the event that the build-out scenario were chosen is \$99,530,889. This amount is further divided into "Maintenance" or "Expansion" projects. Maintenance projects are those which would be funded by the utility through its rates and monthly or bimonthly charges. Expansion projects are those which would be covered either by LHI, or other developers as needed. These projects are typically recouped in "New Meter Fees". These are sometimes called "Facility Capacity Charges", "Tap-In Charges", or "Water System Development Fees". They are the same thing. The term "New Meter Fee" has been used here. Developer-funded or in-kind projects are not included in this analysis. One example is a possible on-site storage tank for fire protection at the Miki Basin. If this is built, it would be funded by the developer. Neither LWCI nor LHI would be likely to fund construction of such a project. However, such projects once dedicated to the utility become the responsibility of LWCI to maintain, operate and or replace.

In the previous draft of this chapter, the total amount of projects to be covered by rates and charges within the planning period was estimated at \$34,776,479. Some of the projects are specifically scheduled, others are unscheduled and assumed to roll in gradually over the twenty year period. Assuming a twenty year roll-in, with a 10% return on equity, the carrying costs work out to an average of about 5% per year. Annual carrying costs for maintenance and demand management projects were estimated at \$1,738,824 per year.

Previously it was thought that sufficient reclaimed water to warrant a line from Lana'i to Manele would not be available until after the 20 year time frame, so reclaimed water costs had not been added into the base case forecast for the twenty year time period. Since the October 2009 draft of this document, the use of 60,000 gallons of reclaimed water at Miki Basin had been added in to the near term plan. The potential added charges could be covered through either rates or new meter fees, so the change was examined both ways. If covered by rates, this would bring annual revenue requirements to \$1,815,624.

Some additional costs are assumed based upon Table 4-5 of the May 29, 2009 DRAFT *Lana'i Water System Acquisition Appraisal* for LWCI, and on the 2008 *Pro Forma* Statement of Income for Non-Potable Brackish Operations in PUC Docket 2008-03222. These sources list existing annual as roughly \$660,932 per year for LWCI and \$253,184 for LHI. Existing annual revenue losses covered by CCR are estimated at \$767,761 per year for LWCI and \$76159 for LHI, for a total existing operating expense of about \$1,758,036. Increased costs of labor and cost of new facilities and rolling stock are also taken from the DRAFT *Lana'i Water System Acquisition Appraisal*. Increased costs of labor are estimated at \$80,760. Revenue requirements for new facilities and rolling stock are estimated at \$197,038.

Adding revenue requirements for the annual carrying cost of the proposed program (\$1,738,824), plus existing revenue requirements (\$1,758,036), assumed increases in cost of labor (\$80,760), new facilities and rolling stock (\$197,038), one arrives at an average annual revenue requirement of \$3,774,658 in 2008 dollars. With the addition of the Miki Basin project, the annual revenue requirement would be \$3,851,458.

Billing data were broken down into user classes and evaluated for relative percentage of total water sales by classes and usage amounts. These percents were then applied to overall revenue requirements to derive starting revenue targets for each use and consumption class. Assignment of costs was adjusted to provide for discounted rates for low water use in all classes, to encourage conservation, and to discourage excessive

Revenue Requirements To Cover Capital Expenditures

irrigation. The resulting charges per thousand gallons of water are presented in Figures 5 -55 and 5-56. Rates are shown with and without financing of the Miki Basin reclaimed project, since it could be financed by rates or fees. Bi-monthly meter charges were not re-calculated, and are presented in Figure 5-54.

FIGURE 5-49. Proposed Bi-Monthly Charges Based Upon Capital Plans

Bi- Monthly Meter Fees		
	Relative	Bi-Monthly
Meter Size	Capacity	Rate (\$)
5/8"	1	25
3/4"	1.5	37.5
1"	2.5	62.5
1-1/2"	5	125
2"	8	200
2-1/2"	12	300
3"	16	400
4"	25	625
6"	50	1250
8"	80	2000
hydrant meters 3" charged daily \$28.69 / day	25	625

The rate design shown in Figures 5-50 and 5-51 includes rates for both potable and brackish service, and is steeply tiered to encourage conservation. A relatively low "lifeline" rate is maintained across the low end of all use classes.

Certain policy recommendations are reflected by the rate design. It is designed for equity, especially for those whose uses reflect only basic necessity for livelihoood. It is designed to strongly encourage conservation. A third policy statement is made in the balance of costs between fresh and potable brackish water. Although the brackish and potable systems are registered separately under the PUC, this rate design addresses both, adding additional tiers to the brackish system as well as the potable. One might tend to think that potable water should be more expensive than brackish water, since it is of higher quality. At present, the brackish sources are generally less expensive than the potable on Lana'i. However, water levels of the brackish sources on Lana'i have been declining much more rapidly than those of the fresh sources. Continuing decline in water levels will make these sources more costly. All of the water on Lana'i comes from one aquifer system. Nor is it clear that irrigation in Manele, where the brackish source is used, need be cheaper than irrigation in Lana'i City. Although the rate design spreadsheet was set up such that these sources of water can be charged differently, the draft structure presented below sets irrigation charges for brackish and potable water at the same rate.

After the rate in the first column of rates in Figure 5-50 were presented, CCR expressed some concern about the relative fraction of cost that was assigned to the Manele Golf Course. All other rate columns, including the second column in Figure 5-51, have brought that fraction down, in varying amounts. The rate designs in Figure 5-56 have more tiers, to help address the irrigation question fairly.

FIGURE 5-50. Possible Rates Based Upon Replacement and Operating Needs

	\$ / Kgal	\$ / Kgal
Rates Per 1,000 Gallons	No Miki Proj	w/ Miki Proj
Res SF <=200	1.25	1.35
Res SF >200 - 500	1.95	2.00
Res SF >500-1,000	2.55	2.60
Res SF >1,000-1,500	4.65	5.15
Res SF >1,500-2,000	6.75	6.75
ResSF >2,000	7.95	8.00
Res MF <800	1.25	1.35
Res MF >800-2000	1.95	2.00
Res MF >2000	3.45	5.00
*assumes 4 units per meter		
Ag <5000	1.25	1.25
Ag >5000	1.85	1.85
Hadal 41000 CDD/marin	4.05	4.05
Hotel <+200 GPD/room	1.25	1.35
Hotel >200 to 350 GPD /room	1.95	2.50
Hotel >350 to 500 GPD /room	3.50	5.60
Hotel >500 GPD / room	7.15	7.15
Commercial, Gov't. & PQP <500	1.25	1.35
Commercial, Gov't. & PQP >500-1,000	1.95	2.50
Commercial, Gov`t. & PQP >1,000-2,000	2.65	3.50
Commercial, Gov`t. & PQP >2,000-5,000	4.65	5.65
Commercial, Gov`t. & PQP >5,000	6.65	7.25
Irrig & Devel <500	3.70	2.50
Irig & Devel >500-1000	4.75	3.50
Irrig & Devel >1,000-2000	5.80	5.60
Irrig & Devel >2,000 -5000	6.85	7.00
Irig & Devel >5,000	7.95	8.00
Prockish Irig 9 Doyal - 500	3.70	2.50
Brackish Irrig & Devel <500		
Brackish Irrig & Devel >500-1000	4.75	3.50
Brackish Irrig & Devel >1,000-2000	5.80	5.50
Brackish Irrig & Devel >2,000 -5000	6.85	7.25
Brackish Irrig & Devel >5,000	7.95	8.00

Revenue Requirements To Cover Capital Expenditures

FIGURE 5-51. Possible Rates Based Upon Replacement and Operating Needs

Rates Per 1,000 Gallons	No Miki Proj	No Miki Proj	w Miki Proj	w Miki Proj
Res SF <=200	1.75	1.80	2.00	1.95
Res SF >200 - 500	2.85	2.85	2.85	2.85
Res SF >500-1,000	4.05	4.05	5.00	5.00
Res SF >1,000-1,500	5.75	5.75	5.75	6.00
Res SF >1,500-2,000	7.00	7.00	7.50	7.50
ResSF >2,000	8.75	8.75	9.25	9.25
Res MF* <800	1.75	1.75	2.00	2.00
Res MF >800-2000	2.85	2.85	2.85	2.85
Res MF 2,000 - 4,000	4.05	4.05	4.50	4.50
Res MF 4,000 - 8,000	5.75	5.75	5.75	5.75
Res MF >8000	7.00	7.00	7.50	7.50
*assumes 4 units per meter				
Commercial Gov`t., PQP <500	2.05	2.05	2.25	2.25
Commercial and Gov't., PQP >500-1,000	2.85	2.85	2.85	2.85
Commercial and Gov't., PQP >1,000-2,000	3.65	3.65	3.65	3.65
Commercial and Gov't. PQP >2,000-5,000	4.75	4.75	5.00	5.00
Commercial and Gov't. PQP >5,000	5.15	5.15	5.15	5.15
Hotel <+200 GPD / room	2.05	2.05	2.25	2.25
Hotel 200 to 350 GPD / room	2.85	2.85	2.85	2.85
Hotel 350 to 500 GPD /room	4.75	4.75	5.00	5.05
Hotel >500 GPD / room	6.50	6.50	7.25	7.25
Ag <500	1.75		1.10	1.10
Ag <5000	1.05	1.10	1.10	1.15
Ag >5000	1.05	1.15	1.25	1.25
Irr & Devel <500	4.35	4.35	4.35	4.50
Irrig & Devel >500-1000	5.35	5.35	5.35	5.35
Irrig & Devel >1,000-2000	6.50	6.50	6.50	6.50
Irrig and Devel >2,000 -5000	7.70	7.70	7.70	7.70
Irrig and Devel >5,000	8.50	8.50	8.50	8.50
Brackish Irr & Devel <500	4.35	4.35	4.50	4.50
Brackish Irrig & Devel >500-1000	5.35	5.35	5.65	5.65
Brackish Irrig & Devel >1,000-2000	6.50	6.50	6.50	6.50
Brackish Irrig and Devel >2,000 -5000	7.70	7.70	7.70	7.70
Brackish Irrig and Devel >5,000	8.75	8.75	8.75	8.75
Manele GC <50,000	4.30		4.45	4.45
Manele GC 50,000 - 100,000	5.35		5.50	5.50
Manele GC 100,000 - <250,000	6.50		6.50	6.50
Manele GC 250,000 - < 500,000	7.70		7.70	7.70
Manele GC >500,000 - 650000	8.75		8.75	8.75
Manele GC >650,000	15.00	15.00	15.00	15.00

Cost recovery on an estimated \$64,754,410 based upon build-out meter counts would lead to a cost of \$27,621.75 or \$28,261.60 for a new 5/8" meter, even without the reclaimed project. Clearly most of the community can not and will not pay that. It would be impossible to fund the proposed build-out scenario without in-kind contribution. The bulk of the costs of a build-out scenario would probably be recovered through real estate sales, rather than new meter fees.

FIGURE 5-52. Projected Costs Per Meter - Based on Full Build-Out Within 20 Years

			Build-Out
		Build-Out	New Fee
	Relative	New Fee	Rate
Meter Size	Capacity	Rate	w / Miki
5/8"	1	\$27,621.75	\$28,261.60
3/4"	1.5	\$41,432.63	\$42,392.40
1"	2.5	\$69,054.38	\$70,654.00
1-1/2"	5	\$138,108.75	\$141,308.00
2"	8	\$220,974.00	\$226,092.80
2-1/2"	12	\$331,461.00	\$339,139.20
3"	16	\$441,948.00	\$452,185.60
4"	25	\$690,543.75	\$706,540.00
6"	50	\$1,381,087.50	\$1,413,080.00
8"	80	\$2,209,740.00	\$2,260,928.00
hydrant meters 3" charged daily	25	\$690,543.75	\$706,540.00
		daily rate	daily rate
hyd meter charged daily		\$1,891.90	\$1,935.73

Alternatively, the improvements needed to the year 2030 according to the base case forecast would require only \$5,335,010 in cost recovery over the planning period, and could be accommodated with a meter fee structure that started at \$532 per meter without the reclaimed project. The projects included in this theoretical new meter fee are Well 15, Renovation and Recommissioning of Well 7, and the connection of Well 7 to the Lana'i System. With the Miki Basin reclaimed project, the cost recovery would rise to \$6,871,010, and can be accommodated with a fee structure starting at \$686 for a 5/8 inch meter.

FIGURE 5-53. Projected Costs Per Meter - Based on Base Case Forecast

	Relative	New Meter Fee	New Meter Fee
Meter Size	Capacity	Base Case	Base w/Recl.
5/8"	1	\$532	\$686
3/4"	1.5	\$798	\$1,029
1"	2.5	\$1,331	\$1,715
1-1/2"	5	\$2,661	\$3,430
2"	8	\$4,258	\$5,488
2-1/2"	12	\$6,387	\$8,232
3"	16	\$8,516	\$10,976
4"	25	\$13,306	\$17,150
6"	50	\$26,613	\$34,300
8"	80	\$42,580	\$54,880
hydrant meters 3"	25	\$13,306	\$17,150
hyd meters charg	ged daily	\$28.69 / day	\$46.99 / day

Revenue Requirements To Cover Capital Expenditures

FIGURE 5-54. Basic Source Plan

Ability Abelet Abulity Abelet Abulity Abulit	Existing System Existing System Existing System Existing System Existing System Well 2 Replacement (2-A) Shaff 3 Replacement (2-A) Shaff 3 Replacement (2-A) Shaff 3 Replacement (2-A) Shaff 3 Replacement (2-A) Well 15 *** Well 2 *** Well 3 *** Well 2 *** Well 3 ** Well 3 *** Well 3 ** Well 3 *** Well 3 ** Well 3 ** Well 3 *** Well 3 **			Average Day	Cullinialive	Cumulaive	Cumulative	Cumulative Cumulative Cumulative Conservation
State Aguite Aguite Recision Cost wAdjustments Cal Denmand Withdrawale Aguite Recisions State System 1685.224 2,41.222 191.3310 327.912	Options in Order of Levelized Cost w/Adjustments Gal Demand Withdrawals (1913.37			Ability to Meet	Aquifer	Leeward	Windward	and
sisting System (2-A) and the state of the st	Existing System Well 2 Replacement (2-B) * * * * * * * * * * * * * * * * * * *	Options in Order of Levelized Cost w/Adjustments	Gal	Demand	Withdrawals	Aquifer	Aquifer	Reclaimed
lei Z Replacement (2-A) 100,000 1,385,224 2,541,222 2,213,310 2,325,234 2,312,22 2,435,310 2,325,234 2,312,22 2,435,310 2,325,234 2,312,22 2,435,310 3,37,312 100,000 2,435,224 2,991,222 2,663,310 3,73,912 100,000 2,435,224 2,991,222 2,663,310 3,73,912 110,000 2,735,224 2,991,222 2,663,310 3,73,912 110,000 2,735,224 2,991,222 2,663,310 3,73,912 110,000 2,735,224 2,991,222 2,663,310 3,73,912 110,000 2,366,224 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 110,000 2,962,234 2,991,222 2,663,310 3,73,912 100,000 2,962,234 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 3,73,912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 100,000 2,880,224 2,991,222 2,663,310 2,7912 2,991,222 2,663,310 2,7912 2	Well I Replacement (2-A) 300 000 1,985,224 2,541,222 2,213.33 Shaff 3 Replacement (2-B)**** 160,000 2,135,224 2,691,222 2,268.33 Well 15**** 100,000 2,435,224 2,991,222 2,663.31 Well 16**** 200,000 2,435,224 2,991,222 2,663.31 Well Near Hi'l and Well 5 / Well 5 Replacement 200,000 2,435,224 2,991,222 2,663.31 Well Near Hi'l and k0km Hi'l and Well 5 Replacement 100,000 2,735,224 2,991,222 2,663.31 Well Near Hill Near Well 5 Well 5 Replacement 111,000 2,846,224 2,991,222 2,663.31 Toilet and Fixture Replacement Program 110,000 2,846,224 2,991,222 2,663.31 Hypalon Cover on 15 MG Reservoir 40,000 2,860,224 2,991,222 2,663.31 Hypalon Cover on 15 MG Reservoir 40,000 2,880,224 2,991,222 2,663.31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663.31 Rectainned Water Manele 3,800,000 2,880,202 2,991,222 <td< td=""><td>Existing System</td><td></td><td>1,685,224</td><td>2,241,222</td><td>1,913,310</td><td>327,912</td><td>307033</td></td<>	Existing System		1,685,224	2,241,222	1,913,310	327,912	307033
186.000 2.135,224 2.691,222 2.333.310 327.912	Shaff 3 Replacement (2-B) ** ** 150,000 2,135,224 2,691,222 2,363,31 Well 13 Replacement (2-B) ** ** 200,000 2,235,224 2,991,222 2,663,31 Well 13 Replacement ** 200,000 2,435,224 2,991,222 2,663,31 Well 3 Replacement ** 200,000 2,635,224 2,991,222 2,663,31 Well 7 Recommission 100,000 2,735,224 2,991,222 2,663,31 Palawai Grid Pipe Replacement Program 100,000 2,735,224 2,991,222 2,663,31 Landscape Conservation 111,000 2,846,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 40,000 2,900,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 2,000 2,980,224 2,991,222 2,663,31 Hotel Incentives Program 2,000 2,980,224 2,991,222 2,663,31 Reclaimed Water Manele 3,000 2,982,705 2,991,222 2,663,31 Windward Well at Malau 3,000 4,038,705 3,941,222 2,663,31 Windward Well	Vell 2 Replacement (2-A)	300,000	1,985,224	2,541,222	2,213,310	327,912	
100,000 2,255,24 2,791,222 2,433,310 327,912	Well 15*, ** 100,000 2,235,224 2,791,222 2,463,334 Well Replacement ** 200,000 2,435,224 2,991,222 2,663,33 Well Near Hi'l Tank (bwn Hi'l and Well 3) ** High Level Well Near Well 5 / Well 5 Replacement 200,000 2,435,224 2,991,222 2,663,33 Well 7 Recommission Palawai Grid Pipe Replacement Program 100,000 2,735,224 2,991,222 2,663,31 Lands cape Conservation 111,000 2,860,224 2,991,222 2,663,31 Lands cape Conservation 40,000 2,860,224 2,991,222 2,663,31 Hypalon Cover on 15 Mos Reservoir 40,000 2,800,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 82,771 2,981,705 2,991,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwd 3300,000 4,038,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,75	*	150,000	2,135,224	2,691,222	2,363,310	327,912	
Berplacement 19 19 19 19 19 19 19 1	Well 3 Replacement *** 200,000 2,435,224 2,991,222 2,663,31 Well Near Hi'l Tank (bun Hi'l and Well 3)*** High Level Well Near Well 5 / Well 5 Replacement 200,000 2,635,224 2,991,222 2,663,31 High Level Well Near Well 5 / Well 5 Replacement Program 100,000 2,635,224 2,991,222 2,663,31 Palawai Grid Pipe Replacement Program 100,000 2,735,224 2,991,222 2,663,31 Lands cape Conservation 14,000 2,860,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 14,000 2,860,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,860,224 2,991,222 2,663,31 Annual Water Audit and Leak Detection Program 20,000 2,880,224 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 82,710 2,862,244 2,991,222 2,663,31 Reclaimed Water Manele 25,771 2,988,705 2,991,222 2,663,31 Windward Well at Kehewai Ridge - 2,750 /oth windward Well at Kehewai Ri	Vell 15 * , **	100,000	2,235,224	2,791,222	2,463,310	327,912	
lel Near Hi'l Tank (blum Hi' and Well 3)** Intervel Weil Near Well Server Secretary (100,000) 2,535,224 2,991,222 2,663,310 327,912 (101,000) 2,735,224 2,991,222 2,663,310 327,912 (101,000) 2,735,224 2,991,222 2,663,310 327,912 (101,000) 2,846,224 2,991,222 2,663,310 327,912 (101,000) 2,846,224 2,991,222 2,663,310 327,912 (101,000) 2,846,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,224 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 327,912 (101,000) 2,900,204 2,991,222 2,663,310 1,977,912 (101,000) 2,900,204 2,991,222 2,693,310 1,977,912 (101,000) 2,900,204 2,991,222 2,693,310 1,977,912 (101,000) 2,900,204 2,991,222 2,693,310 1,977,912 (101,000) 2,900,204 2,901,222 2,693,310 1,977,912 (101,000) 2,900,204 2,901,202 2,903,310 1,977,912 (101,000) 2,900,000 2,900,000 2,901,202 2,903,310 1,977,912 (101,000) 2,900,000 2,900,000 2,901,000 2	Well Near Hi'l Tank (bwn Hi'l and Well 3)*** High Level Well Near Well 5 Well 5 Replacement High Level Well Near Well 5 Well 5 Replacement High Level Well Near Well 5 Well 5 Replacement Well 7 Recommission 200,000 2,635,224 2,991,222 2,663,31 Palawai Grid Pipe Replacement Program 110,000 2,735,224 2,991,222 2,663,31 Toilet and Fixture Replacement Program 110,000 2,860,224 2,991,222 2,663,31 Hyppalon Cover on 15 MG Reservoir 40,000 2,800,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 82,710 2,962,934 2,991,222 2,663,31 Windward Wells at Kauiki 300,000 4,338,705 4,441,222 2,663,31 Windward Wells at Kehewai Ridge - 2,250 / oth wndwd 300,000 4,938,705 4,941,222 2,663,31 Windwar	Vell 3 Replacement **	200,000	2,435,224	2,991,222	2,663,310	327,912	
bell 7 Recommission Islandi Grid Pipe Replacement El 7 Recommission Islandi Grid Pipe Replacement Islandi Grid Pipe Replacement Islandi Grid Pipe Replacement Islandi Grid Pipe Replacement Islandi Grid Pipe Replacement Program Islandi Grid Pipe Replacement Grid Pipe Replacement Program Islandi Grid Pipe Replacement Grid P	High Level Well Near Well 5 Well 6 Replacement 200,000 2,635,224 2,991,222 2,663,37 Vell 7 Recommission 200,000 2,735,224 2,991,222 2,663,37 Palawai Grid Pipe Replacement Program 100,000 2,735,224 2,991,222 2,663,37 Lands cape Conservation 111,000 2,846,224 2,991,222 2,663,37 Hypalon Cover on 15 MG Reservoir 40,000 2,860,224 2,991,222 2,663,37 Annual Water Audit and Leak Detection Program 20,000 2,860,224 2,991,222 2,663,37 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,37 Hotel Incentives Program 20,000 2,880,705 2,991,222 2,663,37 Reclaimed Water Lana i City & Koele 82,710 2,962,934 2,991,222 2,663,37 Windward Wells at Maunalei (3) 300,000 4,388,705 4,441,222 2,663,37 Windward Wells at Kaulki- Incremental 300,000 4,938,705 4,941,222 2,663,37 Windward Wells at Kehewai Ridge - 2,250 / ofth wndwd 300,000 4,938,705 4,941,222 2,663,37 Reclaimed Water Manele	Vell Near Hi'i Tank (btwn Hi`i and Well 3) **						
lawari Grid Pipe Replacement 100,000 2,735,224 2,991,222 2,663,310 327,912 ndscape Conservation 110,000 2,735,224 2,991,222 2,663,310 327,912 ndscape Conservation 110,000 2,735,224 2,991,222 2,663,310 327,912 ndscape Conservation 111,000 2,846,224 2,991,222 2,663,310 327,912 ndscape Conservation 111,000 2,846,224 2,991,222 2,663,310 327,912 ndscape Conservation 110,000 2,846,224 2,991,222 2,663,310 327,912 nered Rate Structure 20,000 2,880,224 2,991,222 2,663,310 327,912 nered Rate Structure 20,000 2,880,224 2,991,222 2,663,310 327,912 nered Rate Structure 20,000 3,288,705 3,291,222 2,663,310 327,912 nidward Well at Mainele 300,000 3,288,705 3,291,222 2,663,310 37,7912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 4,338,705 4,941,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 4,938,705 4,941,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 nidward Well at Kehewai Ridge - 2,750 / oth windwid 300,000 5,238,705 5,241,222 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,310 2,577,912 2,663,3	Well 7 Recommission 200,000 2,635,224 2,991,222 2,663,31 Palawai Grid Pipe Replacement Program 100,000 2,735,224 2,991,222 2,663,31 Landscape Conservation 111,000 2,846,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 14,000 2,860,224 2,991,222 2,663,31 Annual Water Audit and Leak Detection Program 40,000 2,860,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Tiered Rate Structure 82,710 2,962,934 2,991,222 2,663,31 Reclaimed Water Manele 25,771 2,988,705 2,991,222 2,663,31 Windward Wells at Kaulki - Incremental 300,000 4,338,705 4,041,222 2,663,31 Windward Wells at Kehewai Ridge - 2,250 / oth wndwrd 300,000 4,338,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000 5,238,705 5,241,222 2,663,31 Reclaimed Water Manele 2,50,000 5,694,162 5,241,222<	High Level Well Near Well 5 / Well 5 Replacement						
Ialwaid Grid Pipe Replacement 200 000 2 635,224 2,991,222 2 663,310 327,912 nilet and Fixture Replacement Program 100,000 2,735,224 2,991,222 2,663,310 327,912 nols cape Conservation 11,000 2,846,224 2,991,222 2,663,310 327,912 nutal Water Audit and Leak Detection Program 40,000 2,860,224 2,991,222 2,663,310 327,912 sted Rate Structure 20,000 2,880,224 2,991,222 2,663,310 327,912 ered Rate Structure 20,000 2,880,224 2,991,222 2,663,310 327,912 ered Rate Structure 20,000 2,880,224 2,991,222 2,663,310 327,912 ered Rate Structure 20,000 2,880,244 2,991,222 2,663,310 327,912 indward Well at Malau 300,000 3,288,706 3,991,222 2,663,310 327,912 indward Well at Kalkiik - Incremental 300,000 4,938,706 4,941,222 2,663,310 1,77,912 indward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000	Palawai Grid Pipe Replacement 200,000 2,635,224 2,991,222 2,663,31 Lands cape Conservation 111,000 2,846,224 2,991,222 2,663,31 Lands cape Conservation 111,000 2,846,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 14,000 2,860,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 20,000 2,860,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,860,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,860,224 2,991,222 2,663,31 Reclaimed Water Lana'i City & Koele 82,771 2,988,705 2,991,222 2,663,31 Windward Well at Malau 300,000 4,338,705 4,041,222 2,663,31 Windward Wells at Kauiki - Incremental 300,000 4,338,705 4,341,222 2,663,31 Windward Wells at Kauiki - Incremental 300,000 4,388,705 5,241,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000 5,238,705 5,241,222 2,663,31 Reclaimed Water Lana'i City & Koele 20,750 / oth wndwrd 300,000 6,238,705 5,241,222 2,663,31 Reclaimed Water Lana'i City & Koele 20,750 / oth wndwrd Well at Kehewai Ridge - 2,750 / oth wndwrd Ridge - 2,750 / oth w	Vell 7 Recommission						
Markar Olive Part Markar Charles Markar Olive	Triend Rate Structure Rectaimed Water Lana'i City & Koele Windward Well at Kehewai Ridge - 2,750' / 494,162 Windward Well at Kehewai Ridge - 2,750' / 494,162 Windward Well at Kehewai Ridge - 2,750' / 6th w	tomorphic Day Day	000 000	2 635 224	2 001 222	2 663 340	327 042	000 000
Indicage Conservation Total Total Tradit Tr	Transcraptor National Program	Collettond Eisture Deallocement Drogram	100,000	2,000,2	2,001,000	2,663,510	21.0,120	300,000
Indicato be Conservation Indicator be Conservation Indicator between Indicator betwee	Landscape Conservation 111,000 2,846,224 2,991,222 2,663,31 Hypalon Cover on 15 MG Reservoir 14,000 2,860,224 2,991,222 2,663,31 Annual Water Audit and Leak Detection Program 20,000 2,860,224 2,991,222 2,663,31 Hotal Incentives Program 20,000 2,860,224 2,991,222 2,663,31 Tiered Rate Structure 82,710 2,962,934 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 25,771 2,988,705 2,991,222 2,663,31 Windward Well at Malual Wells at Kaulki 300,000 4,038,705 4,041,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000 4,938,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000 4,938,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oth wndwrd 300,000 4,938,705 5,241,222 2,663,31 Windward Well at Kehewai Ridge - 2,750 / oth wndwrd 300,000 4,938,705 5,241,222 2,663,31 Reclaimed Water Lana i City & Koele	olletalla rixidie Replacellelli riogialli	000,001	477°CC1'7	2,391,222	2,003,310	21 6, 120	200,000
read Rate Structure red Rate Rate I Ra	Hypalon Cover on 15 MG Reservoir 14,000 2,860,224 2,991,222 2,663,31 Annual Water Audit and Leak Detection Program 40,000 2,800,224 2,991,222 2,663,31 Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Tiered Rate Structure 82,710 2,962,934 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 25,771 2,988,705 2,991,222 2,663,31 Windward Well at Malau 300,000 3,288,705 3,291,222 2,663,31 Windward Wells at Kaulki 10,000 4,338,705 4,041,222 2,663,31 Windward Wells at Kehewai Ridge - 2,250 /oth wndwrd 300,000 4,638,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 /oth wndwrd 300,000 4,638,705 5,241,222 2,663,31 Windward Well at Kehewai Ridge - 2,750 /oth wndwrd 300,000 4,938,705 5,241,222 2,663,31 Reclaimed Water Lana i City & Koele 250,000 5,644,162 5,241,222 2,663,31 Ocean to Brackish 260,000 5,694,162	andscape Conservation	111,000	2,846,224	2,991,222	2,663,310	327,912	411,000
runal Water Audit and Leak Detection Program 40,000 2,900.224 2,991,222 2,663,310 327,912 are dead Rate Structure are dead Rate Structure and Rate Structure and Each Each Structure and Each Each Structure and Each Each Each Each Each Each Each Each	Annual Water Audit and Leak Detection Program 40,000 2,900,224 2,991,222 2,663,31 Hotel Incentives Program Tiered Rate Structure Reclaimed Water Lana i City & Koele 25,771 2,988,705 2,991,222 2,663,31 Reclaimed Water Manele 25,771 2,988,705 3,291,222 2,663,31 Windward Well at Malau 300,000 4,038,705 4,941,222 2,663,31 Windward Wells at Kauiki Incremental 300,000 4,338,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,750 / off windward Ridge	Hypalon Cover on 15 MG Reservoir	14,000	2,860,224	2,991,222	2,663,310	327,912	425,000
ered Rate Structure colaimed Water Lana i City & Koele 25,771 2,982,705 2,982,304 2,991,222 2,663,310 327,912 2,063,310 327,912 2,063,310 327,912 2,063,310 327,912 1,377,912 1,000 1,	Hotel Incentives Program 20,000 2,880,224 2,991,222 2,663,31 Tiered Rate Structure Reclaimed Water Lana i City & Koele 82,710 2,962,934 2,991,222 2,663,31 Reclaimed Water Lana i City & Koele 25,771 2,988,705 2,991,222 2,663,31 Windward Well at Malau 300,000 4,038,705 4,041,222 2,663,31 Windward Wells at Kaulki - Incremental 300,000 4,638,705 4,941,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oft windward Well at Kehewai Ridge - 2,750 / of	Annual Water Audit and Leak Detection Program	40,000	2,900,224	2,991,222	2,663,310	327,912	465,000
ered Rate Structure sclaimed Water Lana i City & Koele sclaimed Water Manele wells are assumed to be installed, though they do not yield as much as anticipated Wells are assumed to be installed, though they do not yield as much as anticipated Well set ween well struck in well and well at the well at 150,000 instead of 30,000 goes from \$2.741,222 2,663,310 2,577,912 10.750,000	Tiered Rate Structure Tiered Rate Structure Reclaimed Water Lana'i City & Koele 82,710 2,962,934 2,991,222 2,663,31 Reclaimed Water Lana'i City & Koele 25,771 2,988,705 2,991,222 2,663,31 Windward Well at Malau 300,000 4,038,705 4,041,222 2,663,31 Windward Wells at Kauiki - Incremental 300,000 4,638,705 4,641,222 2,663,31 Windward Well at Kehewai Ridge - 2,250 / oft windward Well at Kehewai Ridge - 2,750 / oft windward Water Lana'i City & Koele 184,661 5,238,705 5,241,222 2,663,31 Reclaimed Water Lana'i City & Koele 20,796 5,238,705 5,241,222 2,663,31 Reclaimed Water Manele 20,796 5,444,162 5,241,222 2,663,31 Ocean to Brackish 250,000 5,694,162 5,241,222 2,663,31 * Wells are assumed to be installed, though they do not yield as much as anticipated. 250,000 5,694,162 5,241,222 2,663,31	Hotel Incentives Program	20,000	2,880,224	2,991,222	2,663,310	327,912	485,000
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Second S	Reclaimed Water Lana i City & Koele 184,661 5,423,366 5,241,222 2,663,31 Reclaimed Water Manele 20,796 5,444,162 5,241,222 2,663,31 Ocean to Brackish 250,000 5,694,162 5,241,222 2,663,31	Vindward Well at Kehewai Ridge - 2,750' /oth wndwrd	300,000	5,238,705	5,241,222	2,663,310	2,577,912	
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	Ocean to Brackish 250,000 5,694,162 5,241,222 2,663,31 * Wells are assumed to be installed, though they do not yield as much as anticipated.	Reclaimed Water Manele	20,796	5,444,162	5,241,222	2,663,310	2,577,912	798,938
	* Wells are assumed to be installed, though they do not yield as much as anticipated.	Dean to Brackish	250 000	5 694 162	5 241 222	2 663 310	2 577 912	
	* Wells are assumed to be installed, though they do not yield as much as anticipated.							
	Tologic good for the second of	Wells are assumed to be installed that the work and a set and the work as the work and the work	Inch as anticipat	7				
			from \$2.97 to \$4.	35. Well 15 goes f	rom \$4.16 to \$8	.05, & Well 7 fn	om \$6.02 to \$8.0	8.
`			appears to be les	ss expensive than \	Nell 7. Levelize	d costs go from	14.49 at 300KG	I to 6.60 at 150 k
			Fank or Well 7					
			n raise closer to	2 energing in unisely	nome resource r	eserve is still re	pepuamuoo	

The source plan on the previous page has not been adjusted for Miki Basin, since it already accounts for additional water to be generated at the treatment plants.

Conclusion

Several issues have been addressed in this chapter.

A list of options has been delineated that can meet either the base case or build-out forecast. These options have been characterized based on costs and other factors. Even at presumed build-out of Phase II, the source plan assumes only 313,938 GPD in new reclaimed water will become available island-wide, with only 267,371 of that in Lana'i City. For this reason, transmission for 500,000 GPD from Lana'i City to Manele is not included in the 2030 source plan. The basis for these assumptions is discussed in Chapter 4, specifically the base case forecast and Phase II build-out forecasts from Figure 4-54 on page 4-59 are used in the source plan table above. Aside from normal growth at Manele, Koele and within Lana'i City, the only capital plan designed specifically to offset potential pumpage with reclaimed water within the planning period is the Miki Basin project. The possible use of reclaimed water has also been mentioned in relation to or more new developments in Lana'i City. This may be useful to the extent that this is possible and can offset water that would otherwise be pumped.

A few rate and fee structures to address system inadequacies and repairs necessary over the next twenty years have been provided. These rates addresses both potable and brackish systems, and are steeply tiered to encourage conservation. These rate and fee structures were designed to enable the utility to meet forecasted growth in a self sufficient manner.

Based on discussions with utility personnel, certain source replacement projects are covered by LWCI, through it's rate structure. The source projects included in this rate structure are Well 3 replacement, Well 2-A, replacing Well 2; Well 2-B, replacing Shaft 3, and replacements of Wells 1 and 4. All other source construction is assumed to be paid for by LHI, and covered by the "New Meter Fee". The reclaimed project to Miki Basin was treated flexibly. Both adjusted rates and fees have been designed to enable this project so that it can be funded in either fashion or provide flexibility to accommodate one of similar cost.

Approximately 485,000 GPD in conservation potential has been identified. A substantial investment has been added to the capital plan to enable these savings to be realized with the proposed rate structure.

Although conservation programs and watershed protection are not normally capitalized, they do need to be recovered within the rates, so these have been included in the proposed rate structure.

With regard to watershed expenses, the inclusion of a portion of the funding necessary to construct Increment 3 of the Lana'ihale Fence in the capital plan would mean that according to the proposed rate structure, utility rate-payers would be making a contribution to help insure that the third increment of the Lana'ihale fence gets built. A corollary of this contribution should be that continued development entitlements are contingent upon timely construction of this fence.

Conclusion

Two sets of "New Meter Fee" structures have been derived. The "New Meter Fee" structure covers source investments made by LHI. The base case "New Meter Fee" includes only Well 15 and the connection of Well 7 to the distribution system, because these were existing and near-term plans for source and could meet the base-case scenario. These sources could be traded for other selections with some minor adjustments. This new meter fee remains quite reasonable, starting at \$532 or \$686 per 5/8" meter, depending upon how the Miki Basin reclaimed project is funded.

Long term source projects are in the "New Meter Fee" for the build-out scenario. The purpose of this analysis was to examine what sort of cost recovery might be necessary if the utility were to fund the sources intended in the build-out plan. According to this analysis, "New Meter Fees" would be prohibitively expensive, in excess of \$25,000 for a 5/8" meter, if build-out were to occur within the planning period. It would not be possible to recover this cost from a "New Meter Fee". If the utility had to fund source development, these sources could not get built at this pace, and build-out would not occur over the twenty year planning period. If these sources are built, they will likely have to be dedicated as inkind contributions.

Although several new sources have been identified, they would not be sufficient to meet build-out of the full CCR proposals at existing unaccounted-for water and per-unit consumption rates. The ability to build-out these plans will depend upon how successful the company is at bringing these rates down, as well as upon performance of the resource with changes to pumpage distribution and amounts, the state of the watershed, climatic influences and other factors.

Supply Options